

# Class of service

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**Class of Service (CoS)** is a 3 bit field within a layer two Ethernet frame header when using IEEE 802.1Q. It specifies a priority value of between 0 (signifying best-effort) and 7 (signifying priority real-time data) that can be used by Quality of Service disciplines to differentiate traffic.

Class of Service (CoS) is a way of managing traffic in a network by grouping similar types of traffic (for example, e-mail, streaming video, voice, large document file transfer) together and treating each type as a class with its own level of service priority. Unlike Quality of Service (QoS) traffic management, Class of Service technologies do not guarantee a level of service in terms of bandwidth and delivery time; they offer a "best-effort." On the other hand, CoS technology is simpler to manage and more scalable as a network grows in structure and traffic volume. One can think of CoS as "coarsely-grained" traffic control and QoS as "finely-grained" traffic control.

## Voice terminology

Class of Service as related to legacy telephone systems, is often used to define the permissions an extension will have on a PBX or Centrex. The Class of Service acronym is normally written as COS vs. CoS as is often used in data networking parlance. Certain groups of users may have a need for extended voice mail message retention while another group may need the ability to forward calls to a cell phone, and still others have no need to make calls outside the office. Permissions for a group of extensions can be changed by modifying a COS variable applied to the entire group.

COS is also used on trunks to define if they are full-duplex, incoming only, or outgoing only.

Most IP Phones tag the VoIP packets with CoS marking of 5 or 6 in the Ethernet header of the outgoing frame.

## References

- "Deploying IP and MPLS QoS for Multiservice Networks: Theory and Practice" by John Evans, Clarence Filisfilis (Morgan Kaufmann, 2007, ISBN 0-12-370549-5)

## See also

- Type of Service
- DiffServ
- Quality of service

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